PROPOSED AMENDMENTS TO THE CLAIMS

1 – 18. (Cancelled)

19. (Currently Amended) A wireless packet communication method for transmitting X data packets simultaneously between two STAs over plural data transmission paths, the wireless packet communication method comprising: [[by]]

using ~~MIMO and~~ a plurality of radio channels determined to be idle by carrier sense and/or ~~by~~ using at least one radio channel determined to be idle by carrier sense and utilizing MIMO transmission, X corresponding to a total number of ~~MIMOs of the plurality of radio channels~~ transmission paths determined to be idle, where Dmax is a value corresponding to the maximum data size of the data packets, ~~and the wireless packet communication method comprising:~~ using at least one of the STAs to perform the following steps:

assessing the respective transmission rates of the plurality of data transmission paths and calculating a size ratio amongst the respective transmission rates, where the size ratio is a ratio between the respective transmission rates for each of the idle radio channels;

obtaining from a transmission buffer associated with one of the STAs at least one data frame to be transmitted;

fragmenting a data part extracted from a data field of the one data frame to be transmitted by applying the size ratio, to generate X data blocks such that each data block requires same amount of time for transmission from one STA to another STA;

generating X data packets by adding, to each data block of the X data blocks, a header field containing control information that includes destination information and an FCS field containing an error checking code;

transmitting the X data packets simultaneously over the plural data transmission paths; and

generating X new data packets after the simultaneous transmission of the X data packets and continuously transmitting the new data packets without performing carrier sense, until a time corresponding to a transmission time of data packets generated from the one data frame passes.

20. (Currently Amended) A wireless packet communication method for transmitting X data packets simultaneously between two STAs over plural data transmission paths, the wireless packet communication method comprising: [[by]]

using ~~MIMO and~~ a plurality of radio channels determined to be idle by carrier sense and/or ~~by~~ using at least one radio channel determined to be idle by carrier sense and utilizing MIMO transmission, X corresponding to a total number of ~~MIMOs of the plurality of radio channels~~ transmission paths determined to be idle, where Dmax is a value corresponding to the maximum data size of the data packets, and ~~the wireless packet communication method comprising:~~ using at least one of the STAs to perform the following steps:

assessing the respective transmission rates of the plurality of data transmission paths and calculating a size ratio amongst the respective transmission rates, where the size ratio is a ratio between the respective transmission rates for each of the idle radio channels;

obtaining from a transmission buffer associated with one of the STAs at least one data frame to be transmitted;

fragmenting a data part extracted from a data field of the one data frame to be transmitted by applying the size ratio, to generate X data blocks such that each data block requires same amount of time for transmission from one STA to another STA;

generating X data packets by adding, to each data block of the X data blocks, a header field containing control information that includes destination information and an FCS field containing an error checking code; and

transmitting the X data packets simultaneously over the plural data transmission paths; and

generating and consecutively transmitting X new data packets after the simultaneous transmission of the X data packets,

wherein the generating and consecutively transmitting step is performed X times without performing carrier sense.

21 – 44. (Cancelled)

45. (Currently Amended) A wireless packet communication apparatus for transmitting X data packets simultaneously between two STAs over plural data transmission paths ~~by using a plurality of radio channels determined to be idle by carrier sense and/or by using a radio channel determined to be idle and MIMO, X corresponding to a total number of MIMOs of the plurality of radio channels determined to be idle, and Dmax corresponding to the maximum data size of said data packets~~, the wireless packet communication apparatus ~~characterized by~~ comprising:

a communication unit selected from the group consisting of:

i) a plurality of radio channels determined to be idle by carrier sense;

ii) at least one radio channel determined to be idle by carrier sense and utilizing MIMO transmission; and

iii) a combination of i) and ii),

wherein X corresponds to a total number of transmission paths in the communication unit determined to be idle, and Dmax corresponding to the maximum data size of the data packets;

a first unit to assess the respective transmission rates of said plurality of data transmission paths and calculate a size ratio amongst the respective transmission rates, where the size ratio is a ratio between the respective transmission rates for each of the idle radio channels;

a transmission buffer associated with one of said STAs configured to store at least one data frame to be transmitted;

a second unit generating X data blocks that have data fields equal to or smaller than Dmax and that have the same packet time length by fragmenting a data part extracted from a data field of said one data frame to be transmitted by applying said size ratio such that each data block requires same amount of time for transmission from one STA to another STA;

a third unit generating X data packets by adding, to each of said X data blocks, a header field containing control information that includes destination information and an FCS field containing an error checking code, to transmit said X data packets simultaneously; and

a fourth unit that transmits the X data packets simultaneously over said plural data transmission paths, wherein

for a time period corresponding to a transmission time of the data packets generated from the data frame, the third unit generates X new data packets after the simultaneous transmission of the X data packets, and the fourth unit continuously transmits the X new data packets without performing carrier sense, until a time corresponding to a transmission time of data packets generated from said one data frame before being fragmented passes.

46. (Currently Amended) A wireless packet communication apparatus for transmitting X data packets simultaneously between two STAs over plural data transmission paths ~~by using a plurality of radio channels determined to be idle by carrier sense and/or by using a radio channel determined to be idle and MIMO, X corresponding to a total number of MIMOs of the plurality of radio channels determined to be idle, and Dmax corresponding to the maximum data size of said data packets~~, the wireless packet communication apparatus ~~characterized by~~ comprising:

a communication unit selected from the group consisting of:

i) a plurality of radio channels determined to be idle by carrier sense;

ii) at least one radio channel determined to be idle by carrier sense and utilizing MIMO transmission; and

iii) a combination of i) and ii),

wherein X corresponds to a total number of transmission paths in the communication unit determined to be idle, and Dmax corresponding to the maximum data size of the data packets;

a first unit to assess the respective transmission rates of said plurality of data transmission paths and calculate a size ratio amongst the respective transmission rates, where the size ratio is a ratio between the respective transmission rates for each of the idle radio channels;

a transmission buffer associated with one of said STAs configured to store at least one data frame to be transmitted;

a second unit generating X data blocks that have data fields equal to or smaller than Dmax and that have the same packet time length by fragmenting a data part extracted from a data field of said one data frame to be transmitted by applying said size ratio such that each data block requires same amount of time for transmission from one STA to another STA;

a third unit generating X data packets by adding, to each of said X data blocks, a header field containing control information that includes destination information and an FCS field containing an error checking code, to transmit said X data packets simultaneously; and

a fourth unit that transmits the X data packets simultaneously over said plural data transmission paths, wherein

for X consecutive iterations, the third unit generates and consecutively transmits X new data packets after the simultaneous transmission of the X data packets without performing carrier sense.

47 – 64. (Cancelled)